

CLMPTO

11/21/01

TC

Claim 1(Original)

1. A recording and reproducing apparatus for recording and reproducing digital video signals, comprising:

a memory for at least three frames;

a writing means for writing externally input video data into the memory based on the synchronizing signal of the digital video signal;

a first readout means for reading video data from the memory based on the synchronizing signal;

a second readout means for reading video data from the memory based on a free-running synchronizing signal generated separately; and

a page management means for performing management of frame pages in the memory by at least controlling the timing of writing video data into the memory and the timing of readout, based on the synchronizing signal,

wherein the first readout means and second readout means are switched over from one to another in accordance with the instruction from the page management means.

Claims 2-6(Currently Amended)

Art Unit: 1700

2. (amended) The recording and reproducing apparatus defined in claim 1, wherein the ~~second readout page management~~ means comprises: a frame length detecting means for detecting the difference of the frame length of the synchronizing signal from the predetermined standard value; a first internal counter for generating the first frame reference signal, which is greater than the standard value; a second internal counter for generating the second frame reference signal, which is shorter than the standard value; and a window pulse generator for generating a window pulse based on the synchronizing signal, and

when the detection result of the frame length detecting means shows that the frame length agrees with the standard value, the first readout means reads out video data from the memory;

when the frame length is greater than the standard value, the second readout means using the first frame reference signal, reads out video data from the memory;

when the frame length is shorter than the standard value, the second readout means using the second frame reference signals, reads out video data from the memory;

when the operation is switched from the first readout means to the second readout means, the first internal counter and second internal counter are reset; and

BEST AVAILABLE COPY

switching from the second readout means to the first readout means is performed when the first frame reference signal or the second frame reference signal appears within the window pulse.

3. (amended) The recording and reproducing apparatus defined in claim 1 ~~or 2~~, wherein the ~~second readout page~~ management means comprises: a field determination means for determining the fields; and a discontinuity detecting means for detecting a discontinuity between fields, and when the discontinuity detecting means detects a field discontinuity in the fields determined by the field determining means, the page to be written in and the page to be read out in the memory are retained.

4. (amended) The recording and reproducing apparatus defined in ~~any one of claims claim 1 through 3~~, wherein the ~~second readout page~~ management means comprises: a line count detecting means for detecting the number of lines in one frame, and when the line count detected by the line count detecting means differs from the previously set number of lines, the page to be written in and the page to be read out are retained.

5. (amended) The recording and reproducing apparatus defined in ~~any one of claims claim 1 through 4~~, wherein the ~~second readout page~~ management means comprises: a blank detecting means for detecting a blanked period of the externally input digital video signal; and a masking means for forcibly muting the

BEST AVAILABLE COPY

Art Unit: 1700

video signal read out from the memory when the blank detecting means detects a blanked period.

6. (amended) The recording and reproducing apparatus defined in ~~any one of claims claim 1 through 5~~, wherein the ~~second readout page management means~~ comprises: an interlace mode determining means for determining whether the externally input digital video signal is of interlaced or non-interlaced data; and a field reallocating means which, when the interlace mode determining means has determined the externally input digital video signal to be of non-interlaced data, effects field reallocation to convert the data into interlaced format.

Claims 7-8(Original)

BEST AVAILABLE COPY

7. The recording and reproducing apparatus defined in claim 6, wherein when the determined result from the interlace mode determining means changes, the contents in the page to be written in and in the page to be read out in the memory are retained.

8. The recording and reproducing apparatus defined in claim 6, wherein when the determined result from the interlace mode determining means changes, the determined result is monitored for a previously determined period of time while the contents in the page to be written in and in the page to be read out in the memory are retained, and retention of the page to be written in and the page to be read out in the memory is released when the determined result has been confirmed after completion of the predetermined period of time.